

**CENTER FOR DRUG EVALUATION AND  
RESEARCH**

*APPLICATION NUMBER:*

**21-583**

**APPROVED LABELING**

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depo-subQ provera 104™  
medroxyprogesterone acetate injectable suspension  
104 mg/0.65 mL

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**Women who use depo-subQ provera 104 may lose significant bone mineral density. Bone loss is greater with increasing duration of use and may not be completely reversible.**

**It is unknown if use of depo-subQ provera 104 during adolescence or early adulthood, a critical period of bone accretion, will reduce peak bone mass and increase the risk for osteoporotic fracture in later life.**

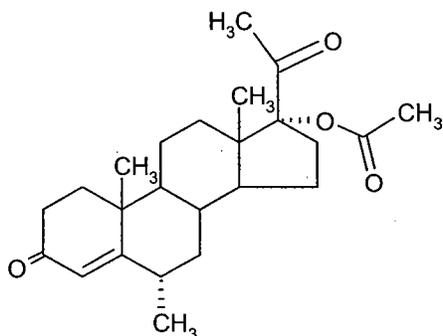
**depo-subQ provera 104 should be used as a long-term birth control method (e.g., longer than 2 years) only if other birth control methods are inadequate (see WARNINGS, section 1).**

PATIENTS SHOULD BE COUNSELED THAT THIS PRODUCT DOES NOT PROTECT AGAINST HIV INFECTION (AIDS) AND OTHER SEXUALLY TRANSMITTED DISEASES.

## DESCRIPTION

depo-subQ provera 104 contains medroxyprogesterone acetate (MPA), a derivative of progesterone, as its active ingredient. Medroxyprogesterone acetate is active by the parenteral and oral routes of administration. It is a white to off-white, odorless crystalline powder that is stable in air and that melts between 205° and 209°C. It is freely soluble in chloroform, soluble in acetone and dioxane, sparingly soluble in alcohol and methanol, slightly soluble in ether, and insoluble in water.

The chemical name for medroxyprogesterone acetate is 17-hydroxy-6 $\alpha$ -methylpregn-4-ene-3,20-dione 17-acetate. The structural formula is as follows:



depo-subQ provera 104 for subcutaneous (SC) injection is available in pre-filled syringes (160 mg/mL), each containing 0.65 mL (104 mg) of medroxyprogesterone acetate sterile aqueous suspension.

Each 0.65 mL contains:

Medroxyprogesterone acetate	104 mg
Methylparaben	1.040 mg
Propylparaben	0.098 mg
Sodium Chloride	5.200 mg
Polyethylene Glycol	18.688 mg
Polysorbate 80	1.950 mg
Monobasic Sodium Phosphate · H <sub>2</sub> O	0.451 mg
Dibasic Sodium Phosphate · 12H <sub>2</sub> O	0.382 mg
Methionine	0.975 mg
Povidone	3.250 mg
Water for Injection	qs

When necessary, the pH is adjusted with sodium hydroxide or hydrochloric acid, or both.

## CLINICAL PHARMACOLOGY

depo-subQ provera 104 (medroxyprogesterone acetate injectable suspension), when administered at 104 mg/0.65 mL to women every 3 months (12 to 14 weeks), inhibits the secretion of gonadotropins, which prevents follicular maturation and ovulation and causes endometrial thinning. These actions produce its contraceptive effect.

### Pharmacokinetics

The pharmacokinetic parameters of medroxyprogesterone acetate (MPA) following a single SC injection of depo-subQ provera 104 are shown in Table 1 and Figure 1.

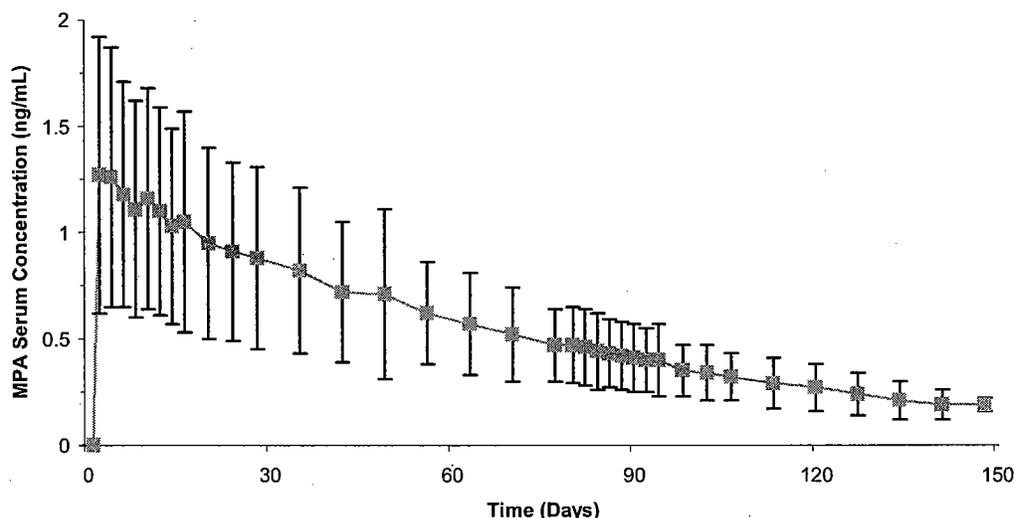
**Table 1. Pharmacokinetic Parameters of MPA  
after a Single SC Injection of depo-subQ provera 104 in Healthy Women  
(n = 42)**

	C <sub>max</sub> (ng/mL)	T <sub>max</sub> (day)	C <sub>91</sub> (ng/mL)	AUC <sub>0-91</sub> (ng·day/mL)	AUC <sub>0-∞</sub> (ng·day/mL)	t <sub>1/2</sub> (day)
Mean	1.56	8.8	0.402	66.98	92.84	43
Min	0.53	2.0	0.133	20.63	31.36	16
Max	3.08	80.0	0.733	139.79	162.29	114

C<sub>max</sub> = peak serum concentration; T<sub>max</sub> = time when C<sub>max</sub> is observed; C<sub>91</sub> = serum concentration at 91 days; AUC<sub>0-91</sub> and AUC<sub>0-∞</sub> = area under the concentration-time curve over 91 days or infinity, respectively; t<sub>1/2</sub> = terminal half-life

**Absorption:** Following a single SC injection of depo-subQ provera 104, serum MPA concentrations reach ≥ 0.2 ng/mL within 24 hours. The mean T<sub>max</sub> is attained approximately 1 week after injection.

**Figure 1. Mean (SD) Serum Concentration-Time Profile of MPA after a Single Injection of depo-subQ provera 104 to Healthy Women**



In a study to assess accumulation and the achievement of steady state following multiple SC administrations, trough concentrations of MPA were determined after 6, 12, and 24 months, and in a subset of 8 subjects, bi-weekly concentrations were determined within one dosing interval in the second year of administration. The mean (SD) MPA trough concentrations were 0.67 (0.36) ng/mL (n=157), 0.79 (0.36) ng/mL (n=144), and 0.87 (0.33) ng/mL (n=106) at 6, 12 and 24 months, respectively.

**Effect of Injection Site:** depo-subQ provera 104 was administered into the anterior thigh or the abdomen to evaluate effects on the MPA concentration-time profile. MPA trough concentrations ( $C_{\min}$ ; Day 91) were similar for the two injection locations.

**Distribution:** Plasma protein binding of MPA averages 86%. MPA binding occurs primarily to serum albumin. No binding of MPA occurs with sex-hormone-binding globulin (SHBG).

**Metabolism:** MPA is extensively metabolized in the liver by P450 enzymes. Its metabolism primarily involves ring A and/or side-chain reduction, loss of the acetyl group, hydroxylation in the 2-, 6-, and 21-positions or a combination of these positions, resulting in more than 10 metabolites.

**Excretion:** Residual MPA concentrations at the end of the dosing interval (12 to 14 weeks) of depo-subQ provera 104 are generally below 0.5 ng/mL, consistent with its apparent terminal half-life of ~40 days after SC administration. Most MPA metabolites are excreted in the urine as glucuronide conjugates with only small amounts excreted as sulfates.

**Linearity/Non-Linearity:** Following a single SC administration of doses ranging from 50 to 150 mg, the AUC and  $C_{\min}$  (Day 91) increased with higher doses of depo-subQ provera 104, but there was considerable overlap across dose levels. Serum MPA concentrations at Day 91 increased in a dose

proportional manner but  $C_{\max}$  did not appear to increase proportionally with increasing dose. The AUC data were suggestive of dose linearity.

### Special Populations

**Race:** There were no significant differences in the pharmacokinetics and/or pharmacodynamics of MPA after SC administration of depo-subQ provera 104 in African-American and Caucasian women. The pharmacokinetics/pharmacodynamics of depo-subQ provera 104 were evaluated in Asian women in a separate study and also found to be similar to African-American and Caucasian women.

**Effect of Body Weight:** Although total MPA exposure was lower in obese women, no dosage adjustment of depo-subQ provera 104 is necessary based on body weight. The effect of body weight on the pharmacokinetics of MPA following a single dose was assessed in a subset of women ( $n = 42$ , body mass index [BMI] ranged from 18.2 to 46.7 kg/m<sup>2</sup>). The AUC<sub>0-91</sub> values for MPA were 71.6, 67.9, and 46.3 ng·day/mL in women with BMI categories of  $\leq 28$  kg/m<sup>2</sup>,  $>28$ -38 kg/m<sup>2</sup>, and  $>38$  kg/m<sup>2</sup>, respectively. The mean MPA  $C_{\max}$  was 1.74 ng/mL in women with BMI  $\leq 28$  kg/m<sup>2</sup>, 1.53 ng/mL in women with BMI  $>28$ -38 kg/m<sup>2</sup>, and 1.02 ng/mL in women with BMI  $> 38$  kg/m<sup>2</sup>, respectively. The MPA trough ( $C_{\min}$ ) concentrations had a tendency to be lower in women with BMI  $>38$  kg/m<sup>2</sup>.

**Hepatic Insufficiency:** No clinical studies have evaluated the effect of hepatic disease on the disposition of depo-subQ provera 104. However, steroid hormones may be poorly metabolized in patients with severe liver dysfunction (see CONTRAINDICATIONS).

**Renal Insufficiency:** No clinical studies have evaluated the effect of renal disease on the pharmacokinetics of depo-subQ provera 104.

### Drug-Drug Interactions

See PRECAUTIONS, section 9

## INDICATIONS AND USAGE

depo-subQ provera 104 is indicated for the prevention of pregnancy in women of child bearing potential.

The loss of bone mineral density (BMD) in women of all ages and the impact on peak bone mass in adolescents should be considered, along with the decrease in BMD that occurs during pregnancy and/or lactation, in the risk/benefit assessment for women who use depo-subQ provera 104 long-term (see WARNINGS, section 1).

In three clinical studies, no pregnancies were detected among 2,042 women using depo-subQ provera 104 for up to 1 year. The Pearl Index pregnancy rate in women who were less than 36 years old at baseline, based on cycles in which they used no other contraceptive methods, was 0 pregnancies per 100 women-years of use (upper 95% confidence interval = 0.25).

Pregnancy rates for various contraceptive methods are typically reported for only the first year of use and are shown in Table 2.

**Table 2. Percentage of Women Experiencing an Unintended Pregnancy During the First Year of Typical Use and the First Year of Perfect Use of Contraception and the Percentage Continuing Use at the End of the First Year: United States**

Method	% of Women Experiencing an Unintended Pregnancy within the First Year of Use		% of Women Continuing Use at 1 Year <sup>3</sup>
	Typical Use <sup>1</sup>	Perfect Use <sup>2</sup>	
Chance <sup>4</sup>	85	85	
Spermicides <sup>5</sup>	26	6	40
Periodic Abstinence	25		63
Calendar		9	
Ovulation Method		3	
Symptothermal <sup>6</sup>		2	
Post-ovulation		1	
Cap <sup>7</sup>			
Parous Women	40	26	42
Nulliparous Women	20	9	56
Sponge			
Parous Women	40	20	42
Nulliparous Women	20	9	56
Diaphragm <sup>7</sup>	20	6	56
Withdrawal	19	4	
Condom <sup>8</sup>			
Female (Reality)	21	5	56
Male	14	3	61
Pill	5		71
Progestin only		0.5	
Combined		0.1	
IUD			
Progesterone T	2.0	1.5	81
Copper T 380A	0.8	0.6	78
LNg 20	0.1	0.1	81
Depo-Provera IM 150 mg	0.3	0.3	70
Norplant and Norplant-2	0.05	0.05	88
Female Sterilization	0.5	0.5	100
Male Sterilization	0.15	0.10	100

Emergency Contraceptive Pills: Treatment initiated within 72 hours after unprotected intercourse reduces the risk of pregnancy by at least 75%.<sup>9</sup>

Lactational Amenorrhea Method: LAM is a highly effective, temporary method of contraception.<sup>10</sup>

Source: Hatcher et al., 1998.<sup>1</sup>

<sup>1</sup>Among *typical* couples who initiate use of a method (not necessarily for the first time), the percentage who experience an accidental pregnancy during the first year if they do not stop use for any other reason.

<sup>2</sup>Among couples who initiate use of a method (not necessarily for the first time) and who use it *perfectly* (both consistently and correctly), the percentage who experience an accidental pregnancy during the first year if they do not stop use for any other reason.

<sup>3</sup>Among couples attempting to avoid pregnancy, the percentage who continue to use a method for 1 year.

<sup>4</sup>The percentages becoming pregnant in columns (2) and (3) are based on data from populations where contraception is not used and from women who cease using contraception in order to become pregnant. Among such populations, about 89% become pregnant within 1 year. This estimate was lowered slightly (to 85%) to represent the percentages who would become pregnant within 1 year among women now relying on reversible methods of contraception if they abandoned contraception altogether.

<sup>5</sup>Foams, creams, gels, vaginal suppositories, and vaginal film.

<sup>6</sup>Cervical mucus (ovulation) method supplemented by calendar in the pre-ovulatory and basal body temperature in the post-ovulatory phases.

<sup>7</sup>With spermicidal cream or jelly.

<sup>8</sup>Without spermicides.

<sup>9</sup>The treatment schedule is one dose within 72 hours after unprotected intercourse, and a second dose 12 hours after the first dose. The Food and Drug Administration has declared the following brands of oral contraceptives to be safe and effective for emergency contraception: Ovral (1 dose is 2 white pills), Alesse (1 dose is 5 pink pills), Nordette or Levlen (1 dose is 4 light-orange pills), Lo/Ovral (1 dose is 4 white pills), Triphasil or Tri-Levlen (1 dose is 4 yellow pills).

<sup>10</sup>However, to maintain effective protection against pregnancy, another method of contraception must be used as soon as menstruation resumes, the frequency or duration of breastfeeds is reduced, bottle feeds are introduced, or the baby reaches 6 months of age.

## CONTRAINDICATIONS

1. Known or suspected pregnancy.
2. Undiagnosed vaginal bleeding.
3. Known or suspected malignancy of breast.
4. Active thrombophlebitis, or current or past history of thromboembolic disorders, or cerebral vascular disease.
5. Significant liver disease.
6. Known hypersensitivity to medroxyprogesterone acetate or any of its other ingredients.

## WARNINGS

### *1. Loss of Bone Mineral Density*

Use of depo-subQ provera 104 reduces serum estrogen levels and is associated with significant loss of bone mineral density (BMD) as bone metabolism accommodates to a lower estrogen level. This loss of BMD is of particular concern during adolescence and early adulthood, a critical period of bone accretion. It is unknown if use of depo-subQ provera 104 by younger women will reduce peak bone mass and increase the risk for osteoporotic fracture in later life. In both adults and adolescents, the decrease in BMD appears to be at least partially reversible after depo-subQ provera 104 is discontinued and ovarian estrogen production increases. A study to assess the reversibility of loss of BMD in adolescents is ongoing.

depo-subQ provera 104 should be used as a long-term birth control method (e.g., longer than 2 years) only if other birth control methods are inadequate. BMD should be evaluated when a woman needs to use depo-subQ provera 104 long-term. In adolescents, interpretation of BMD results should take into account patient age and skeletal maturity.

Other birth control methods should be considered in the risk/benefit analysis for the use of depo-subQ provera 104 in women with osteoporosis risk factors. depo-subQ provera 104 can pose an additional risk in patients with risk factors for osteoporosis (e.g., metabolic bone disease, chronic alcohol and/or tobacco use, anorexia nervosa, strong family history of osteoporosis or chronic use of drugs that can reduce bone mass such as anticonvulsants or corticosteroids).

Although there are no studies addressing whether calcium and Vitamin D lessen BMD loss in women using depo-subQ provera 104, all patients should have adequate calcium and Vitamin D intake.

### *BMD Changes in Adult Women*

A study comparing changes in BMD in women using depo-subQ provera 104 with women using Depo-Provera Contraceptive Injection (Depo-Provera CI, 150 mg) showed no significant differences in

BMD loss between the two groups after two years of treatment. Mean percent changes in BMD in the depo-subQ provera 104 group are listed in Table 3.

**Table 3. Mean Percent Change from Baseline in BMD in Women Using depo-subQ provera 104 by Skeletal Site**

Time on Treatment	Lumbar Spine		Total Hip		Femoral Neck	
	N	Mean % Change (95% CI)	N	Mean % Change (95% CI)	N	Mean % Change (95% CI)
<b>1 year</b>	166	-2.7 (-3.1 to -2.3)	166	-1.7 (-2.1 to -1.3)	166	-1.9 (-2.5 to -1.4)
<b>2 year</b>	106	-4.1 (-4.6 to -3.5)	106	-3.5 (-4.2 to -2.7)	106	-3.5 (-4.3 to -2.6)

In another controlled clinical study, adult women using Depo-Provera CI (150 mg) for up to 5 years showed spine and hip BMD mean decreases of 5-6%, compared to no significant change in BMD in the control group. The decline in BMD was more pronounced during the first two years of use, with smaller declines in subsequent years. Mean changes in lumbar spine BMD of -2.86%, -4.11%, -4.89%, -4.93% and -5.38% after 1, 2, 3, 4 and 5 years, respectively, were observed. Mean decreases in BMD of the total hip and femoral neck were similar.

After stopping use of Depo-Provera CI (150 mg) there was partial recovery of BMD toward baseline values during the 2-year post-therapy period. Longer duration of treatment was associated with less complete recovery during this 2-year period following the last injection. Table 4 shows the extent of recovery of BMD for women who completed 5 years of treatment.

**Table 4. Mean Percent Change from Baseline in BMD Depo-Provera CI (150 mg) in Adults by Skeletal Site and Cohort**

Time in Study	Lumbar Spine		Total Hip		Femoral Neck	
	Depo-Provera*	Control**	Depo-Provera*	Control*	Depo-Provera*	Control**
<b>5 years</b>	n=33 -5.38%	n=105 0.43%	n=21 -5.16%	n=65 0.19%	n=34 -6.12%	n=106 -0.27%
<b>7 years</b>	n=12 -3.13%	n=60 0.53%	n=7 -1.34%	n=39 0.94%	n=13 -5.38	n=63 -0.11%

\*The treatment group consisted of women who received Depo-Provera Contraceptive Injection for 5 years and were then followed for 2 years post-use.

\*\*The control group consisted of women who did not use hormonal contraception and were followed for 7 years.

#### **BMD Changes in Adolescent Females (12-18 years)**

Preliminary results from an ongoing, open-label, self-selected, non-randomized clinical study of adolescent females (12-18 years) also showed that Depo-Provera CI (150 mg) use was associated with a significant decline in BMD from baseline (Table 5). In general, adolescents increase bone density during the period of growth following menarche, as seen in the untreated cohort. However, the two cohorts were not matched at baseline for age, gynecologic age, race, BMD and other factors that influence the rate of acquisition of bone mineral density, with the result that they differed with respect to these demographic factors.

Preliminary data from the small number of adolescents participating in the 2-year post-use observation period demonstrated partial recovery of BMD.

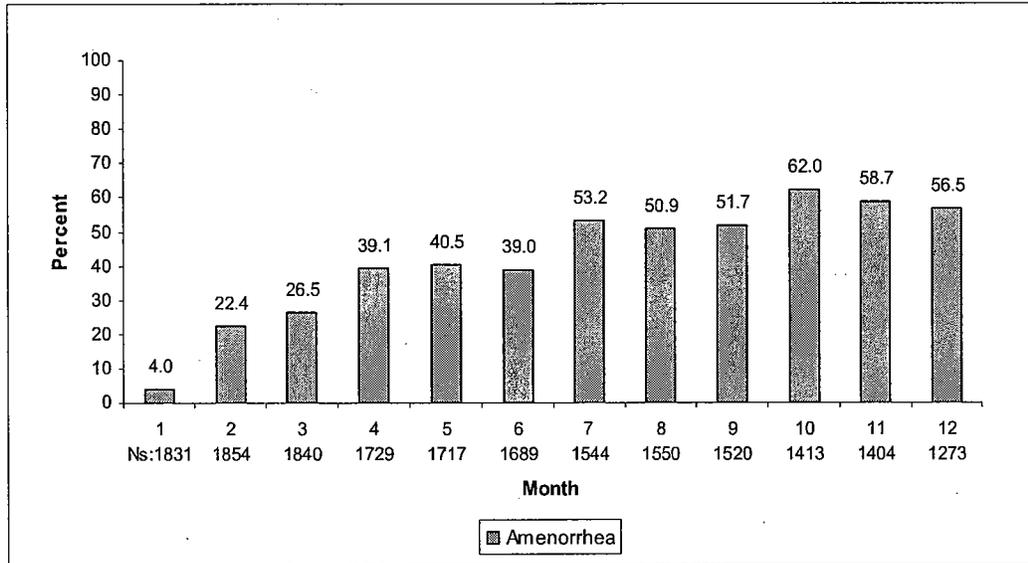
**Table 5. Mean Percent Change from Baseline in BMD in Adolescents Using Depo-Provera CI (150 mg) by Skeletal Site and Cohort**

Duration of Treatment/Observation Period	Depo-Provera CI (150 mg)		Unmatched, Untreated Cohort	
	N	Mean % Change	N	Mean % Change
<b>Lumbar Spine</b>				
Week 60 (1.2 years)	104	-2.42	171	3.47
Week 144 (2.8 years)	46	-2.78	111	5.41
Week 240 (4.6 years)	9	-4.17	70	5.12
<b>Total Hip</b>				
Week 60	103	-2.82	171	1.32
Week 144	45	-6.16	111	1.74
Week 240	9	-6.92	69	1.12
<b>Femoral Neck</b>				
Week 60	103	-3.05	171	1.87
Week 144	45	-6.01	111	2.54
Week 240	9	-6.06	69	1.45

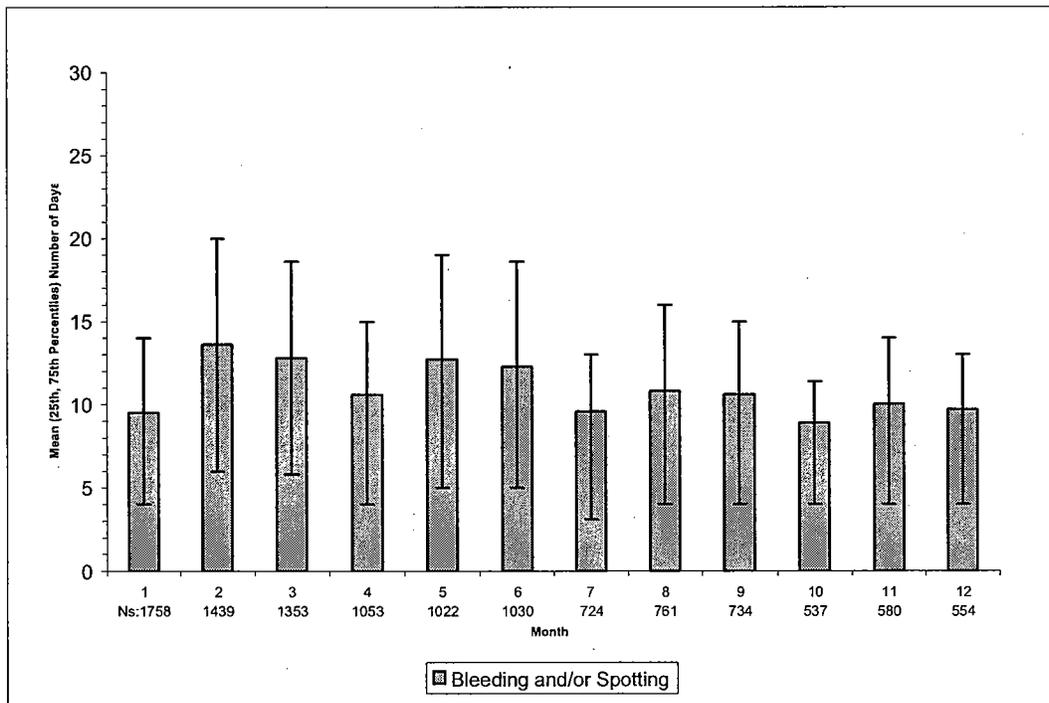
***2. Bleeding Irregularities***

Most women using depo-subQ provera 104 experienced changes in menstrual bleeding patterns, such as amenorrhea, irregular spotting or bleeding, prolonged spotting or bleeding, and heavy bleeding. As women continued using depo-subQ provera 104, fewer experienced irregular bleeding and more experienced amenorrhea. In three contraception trials, 39.0 % of women experienced amenorrhea during month six, and 56.5% experienced amenorrhea during month 12. The changes in menstrual bleeding patterns from the three contraception trials are presented in Figures 2 and 3. If abnormal bleeding associated with depo-subQ provera 104 is severe, appropriate investigation and treatment should be instituted.

**Figure 2. Percentages of depo-subQ provera 104 Treated Women with Amenorrhea per 30-Day Month (ITT Population, N=2053)**



**Figure 3. Mean (25<sup>th</sup>, 75<sup>th</sup> Percentiles) Number of Days in the Subgroup of Women with Bleeding and/or Spotting by Month for Women Treated with depo-subQ provera 104**



Ns = ITT subjects with bleeding and/or spotting during indicated month

**3. Cancer Risks**

Long-term, case-controlled surveillance of users of depot medroxyprogesterone acetate IM 150 mg (Depo-Provera CI, 150 mg) found slight or no increased overall risk of breast cancer and no overall increased risk of ovarian, liver, or cervical cancer, and a prolonged, protective effect of reducing the risk of endometrial cancer.

A pooled analysis<sup>ii</sup> from two case-control studies<sup>iii iv</sup> reported the relative risk (RR) of breast cancer for women who had ever used Depo-Provera CI (150 mg) as 1.1 (95% confidence interval [CI] 0.97 to 1.4). Overall, there was no increase in risk with increasing duration of use of Depo-Provera CI (150 mg). The RR of breast cancer for women of all ages who had initiated use of Depo-Provera CI (150 mg) within the previous 5 years was estimated to be 2.0 (95% CI 1.5 to 2.8). A component of the pooled analysis<sup>iii</sup> described above, showed an increased RR of 2.19 (95% CI 1.23 to 3.89) of breast cancer associated with use of Depo-Provera CI (150 mg) in women whose first exposure to drug was within the previous 4 years and who were under 35 years of age. However, the overall RR for ever-users of Depo-Provera CI (150 mg) was only 1.2 (95% CI 0.96 to 1.52).

[NOTE: The value of 2.19 means that women whose first exposure to drug was within the previous 4 years and who were under 35 years of age had a 2.19-fold (95% CI 1.23 to 3.89-fold) increased risk of breast cancer relative to nonusers. The National Cancer Institute<sup>v</sup> reports an average annual incidence rate for breast cancer for US women, all races, age 30 to 34 years of 26.7 per 100,000. A RR of 2.19, thus, increases the possible risk from 26.7 to 58.5 cases per 100,000 women. The attributable risk, thus, is 31.8 per 100,000 women per year.]

The relative rate of invasive squamous-cell cervical cancer in women who ever used Depo-Provera CI (150 mg) was estimated to be 1.11 (95% CI 0.96 to 1.29). No trends in risk with duration of use or times since initial or most recent exposure were observed.

#### ***4. Thromboembolic Disorders***

Although MPA has not been causally associated with the induction of thrombotic or thromboembolic disorders, there have been rare reports of serious thrombotic events in women using Depo-Provera CI (150 mg). Any patient who develops thrombosis while undergoing therapy with depo-subQ provera 104 should discontinue treatment unless she has no other acceptable birth control options (see CONTRAINDICATIONS).

#### ***5. Ocular Disorders***

Medication should not be re-administered pending examination if there is a sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should not be re-administered.

#### ***6. Ectopic Pregnancy***

Healthcare providers should be alert to the possibility of an ectopic pregnancy among women using depo-subQ provera 104 who become pregnant or complain of severe abdominal pain.

#### ***7. Anaphylaxis and Anaphylactoid Reaction***

Serious anaphylactic reactions have been infrequently reported in women using Depo-Provera CI (150 mg). If an anaphylactic reaction occurs, appropriate emergency medical treatment should be instituted.

## **PRECAUTIONS**

### ***1. Physical Examination***

It is good medical practice for all women to have annual history and physical examinations, including women using depo-subQ provera 104. The physical examination, however, may be deferred until after initiation of depo-subQ provera 104 if requested by the woman and judged appropriate by the clinician. The physical examination should include special reference to blood pressure, breasts, abdomen and pelvic organs, including cervical cytology and relevant laboratory tests. In case of undiagnosed, persistent or recurrent abnormal vaginal bleeding, appropriate measures should be conducted to rule out malignancy. Women with a strong family history of breast cancer or who have breast nodules should be monitored with particular care.

### ***2. Fluid Retention***

Because progestational drugs may cause some degree of fluid retention, conditions that might be influenced by this condition, such as epilepsy, migraine, asthma, and cardiac or renal dysfunction, require careful observation.

### ***3. Weight Gain***

Weight gain is a common occurrence in women using depo-subQ provera 104. In three large clinical trials using depo-subQ provera 104, the mean weight gain was 3.5 lb in the first year of use. In a small, two-year study comparing depo-subQ provera 104 to Depo-Provera CI (150 mg), the mean weight gain observed for women using depo-subQ provera 104 (7.5 lb) was similar to the mean weight gain for women using Depo-Provera CI, 150 mg (7.6 lb).

Although there are no data related to weight gain beyond 2 years for depo-subQ provera 104, the data on Depo-Provera CI (150 mg) may be relevant. In a clinical study, after five years, 41 women using Depo-Provera CI (150 mg) had a mean weight gain of 11.2 lb, while 114 women using non-hormonal contraception had a mean weight gain of 6.4 lb.

### ***4. Return to Ovulation and Fertility***

Return to ovulation may be delayed after stopping therapy. Among 15 women who received multiple doses of depo-subQ provera 104:

- Median time to ovulation was 10 months after the last injection
- Earliest return to ovulation was 6 months after the last injection
- 12 women (80%) ovulated within 1 year of the last injection

However, ovulation has occurred as early as 14 weeks after a single dose of depo-subQ provera 104, and therefore it is important to follow the recommended dosing schedule.

Return to fertility also may be delayed after stopping therapy. Among 28 women who stopped treatment to become pregnant, 1 became pregnant within 1 year of her last injection. A second woman became pregnant 443 days after her last injection. Seven women were lost to follow-up.

### ***5. Depression***

Patients with a history of treatment for clinical depression should be carefully monitored while receiving depo-subQ provera 104.

### ***6. Injection Site Reactions***

In 3 clinical studies of depo-subQ provera 104 involving 2,043 women (1,780 treated for up to 1 year and 263 women treated for up to 2 years), 5% of women reported injection site reactions, and 1% had persistent skin changes, typically described as small areas of induration or atrophy.

### ***7. Carbohydrate/Metabolism***

Some patients receiving progestins may exhibit a decrease in glucose tolerance. Diabetic patients should be carefully observed while receiving such therapy.

### ***8. Liver Function***

If jaundice or any other liver abnormality develops in any woman receiving depo-subQ provera 104, treatment should be stopped while the cause is determined. Treatment may be resumed when liver function is acceptable and when the healthcare provider has determined that depo-subQ provera 104 did not cause the abnormality.

### ***9. Drug Interactions***

No drug-drug interaction studies have been conducted with depo-subQ provera 104.

Aminoglutethimide administered concomitantly with depo-subQ provera 104 may significantly decrease the serum concentrations of MPA.

### ***10. Laboratory Tests***

The pathologist should be advised of progestin therapy when relevant specimens are submitted. The physician should be informed that certain endocrine and liver function tests, and blood components may be affected by progestin therapy:

- (a) Plasma and urinary steroid levels are decreased (e.g., progesterone, estradiol, pregnanediol, testosterone, cortisol).
- (b) Plasma and urinary gonadotropin levels are decreased (e.g., LH, FSH).
- (c) SHBG concentrations are decreased.
- (d) T<sub>3</sub>-uptake values may decrease.
- (e) There may be small changes in coagulation factors.
- (f) Sulfbromophthalein and other liver function test values may be increased slightly.
- (g) There may be small changes in lipid profiles.

### ***11. Carcinogenesis, Mutagenesis, Impairment of Fertility***

See WARNINGS, section 3 and PRECAUTIONS, section 4

### ***12. Pregnancy***

Although depo-subQ provera 104 should not be used during pregnancy, there appears to be little or no increased risk of birth defects in women who have inadvertently been exposed to medroxyprogesterone acetate injections in early pregnancy. Neonates exposed to medroxyprogesterone acetate in-utero and followed to adolescence showed no evidence of any adverse effects on their health including their physical, intellectual, sexual or social development.

### ***13. Nursing Mothers***

Although the drug is detectable in the milk of mothers receiving Depo-Provera CI (150 mg), milk composition, quality, and amount are not adversely affected. Neonates and infants exposed to medroxyprogesterone acetate from breast milk have been studied for developmental and behavioral effects through puberty, and no adverse effects have been noted.

### ***14. Pediatric Use***

depo-subQ provera 104 is not indicated before menarche. Use of depo-subQ provera 104 is associated with significant loss of bone mineral density (BMD). This loss of BMD is of particular concern during adolescence and early adulthood, a critical period of bone accretion. **In adolescents, interpretation of BMD results should take into account patient age and skeletal maturity.** It is unknown if use of depo-subQ provera 104 by younger women will reduce peak bone mass and increase the risk for osteoporotic fractures in later life. Other than concerns about loss of BMD, the safety and effectiveness are expected to be the same for postmenarchal adolescents and adult women.

### **15. Geriatric Use**

depo-subQ provera 104 is intended for use in women desiring contraception. Studies in geriatric women have not been conducted.

## **INFORMATION FOR THE PATIENT**

See PATIENT LABELING.

## **ADVERSE REACTIONS**

In three clinical studies of depo-subQ provera 104 involving 2,043 women (1,780 treated for up to 1 year and 263 treated for up to 2 years), 10% of women discontinued treatment for adverse reactions. Among these 202 women, the most common reasons for discontinuation were:

- Uterine bleeding irregularities (35%, n=70)
- Increased weight (19%, n=39)
- Decreased libido (11%, n=22)
- Acne (10%, n=20)
- Injection site reactions (5%, n=11)

Adverse reactions reported by more than 5% of all women in these clinical trials included

- Headache (8%)
- Intermenstrual bleeding (7%)
- Increased weight (7%)
- Amenorrhea (6%)

Adverse reactions reported by 1% to 5% of all women in these clinical trials included

- Abdominal pain lower
- Abdominal pain
- Acne
- Back pain
- Breast pain
- Bronchitis
- Depression
- Dizziness (except vertigo)
- Fatigue
- Influenza
- Injection site atrophy
- Injection site pain
- Insomnia

- Irritability
- Libido decreased
- Menometrorrhagia
- Menorrhagia
- Menstruation irregular
- Nasopharyngitis
- Nausea
- Pain in limb
- Pharyngitis
- Sinusitis
- Smear cervix abnormal
- Upper respiratory tract infection
- Urinary tract infection
- Vaginal candidiasis
- Vaginal hemorrhage
- Vaginitis
- Vaginitis bacterial

#### **Postmarketing Experience**

There have been rare cases of osteoporosis including osteoporotic fractures reported postmarketing in patients taking DEPO-PROVERA Contraceptive Injection. In addition, infrequent voluntary reports of anaphylaxis and anaphylactoid reaction have been received associated with use of Depo-Provera CI (150 mg).

#### **THE FOLLOWING ADDITIONAL REACTIONS HAVE BEEN REPORTED WITH DEPO-PROVERA CONTRACEPTIVE INJECTION AND MAY OCCUR WITH USE OF DEPO-SUBQ PROVERA 104:**

Allergic reactions, anemia, angioedema, arthralgia, asthenia, asthma, axillary swelling, blood dyscrasia, breast lumps, breast cancer, cervical cancer, chest pain, chills, convulsions, decreased glucose tolerance, deep vein thrombosis, dry skin, dyspnea, excessive thirst, facial palsy, fainting, fever, galactorrhea, gastrointestinal disturbances, genitourinary infections, hoarseness, increased body odor, increased libido, jaundice, loss of bone mineral density, melasma, nervousness, nipple discharge or bleeding, oligomenorrhea, paralysis, paresthesia, prolonged anovulation, prevention of lactation, pruritus, pulmonary embolus, rectal bleeding, scleroderma, somnolence, tachycardia, thrombophlebitis, unexpected pregnancy, urticaria, uterine hyperplasia, vaginal cyst.

### **DOSAGE AND ADMINISTRATION**

#### **Route of Administration**

depo-subQ provera 104 must be given by subcutaneous injection into the anterior thigh or abdomen, once every 3 months (12 to 14 weeks). depo-subQ provera 104 is not formulated for intramuscular injection. Dosage does not need to be adjusted for body weight. The pre-filled syringe of depo-subQ provera 104 must be vigorously shaken just before use to create a uniform suspension.

#### **First Injection**

Ensure that the patient is not pregnant at the time of the first injection. For women who are sexually active and having regular menses, the first injection should be given only during the first 5 days of a normal menstrual period. Women who are breast-feeding may have their first injection during or after their sixth postpartum week.

**Second and Subsequent Injections**

Dosing is every 12 to 14 weeks. If more than 14 weeks elapse between injections, pregnancy should be ruled out before the next injection.

**Switching from other Methods of Contraception**

When switching from other contraceptive methods, depo-subQ provera 104 should be given in a manner that ensures continuous contraceptive coverage. For example, patients switching from combined (estrogen plus progestin) contraceptives should have their first injection of depo-subQ provera 104 within 7 days after the last day of using that method (7 days after taking the last active pill, removing the patch or ring). Similarly, contraceptive coverage will be maintained in switching from Depo-Provera CI (150 mg) to depo-subQ provera 104, provided the next injection is given within the prescribed dosing period for Depo-Provera CI (150 mg).

### Instructions for Administration of depo-subQ provera 104 for Subcutaneous Use

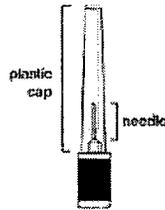
#### Getting ready

Ensure that the medication is at room temperature. Make sure the following components (Diagrams 1, 2, and 3) are available.



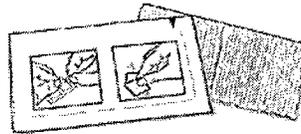
Prefilled syringe  
with needle guard

**Diagram 1**



Needle in  
sterile package

**Diagram 2**



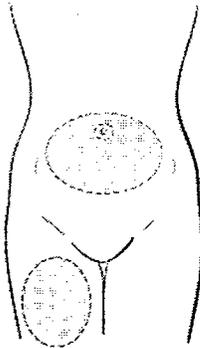
Alcohol pad

**Diagram 3**

depo-subQ provera 104, as with other parenteral drug products, should be inspected visually for particulate matter and discoloration prior to administration.

#### Step 1: Choosing and preparing the injection area.

Choose the injection area. Avoid bony areas and the umbilicus. See shaded areas (Diagram 4).



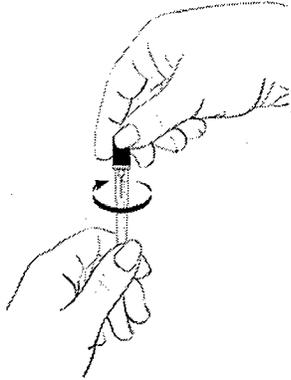
Upper thigh & Abdomen

**Diagram 4**

Use an alcohol pad to wipe the skin in the injection area you have chosen. Allow the skin to dry.

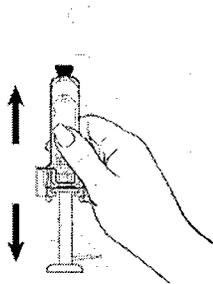
**Step 2: Syringe preparation**

Gently twist off the protective end cap from the needle to break the seal (Diagram 5). Set aside.



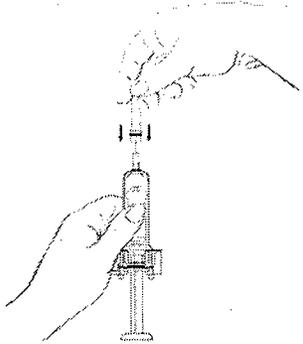
**Diagram 5**

While holding the syringe firmly by the barrel pointing upward, shake it forcefully for at least 1 minute to thoroughly mix the medication (Diagram 6).



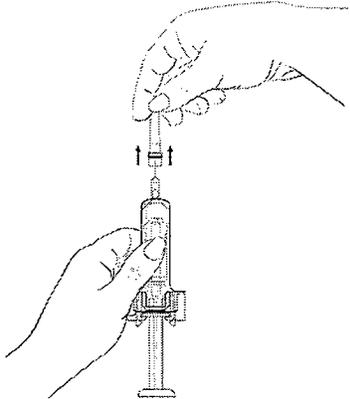
**Diagram 6**

Hold the syringe barrel firmly, remove the protective tip cap from the syringe and attach the needle by pushing it onto the barrel tip (Diagram 7).



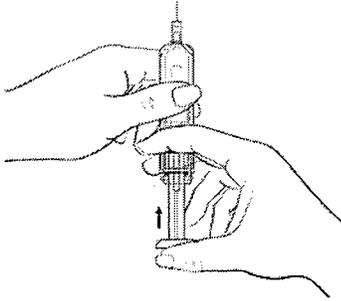
**Diagram 7**

While continuing to hold the syringe barrel firmly, remove the clear protective plastic cover from the needle, making sure the needle is still firmly attached to the syringe (Diagram 8).



**Diagram 8**

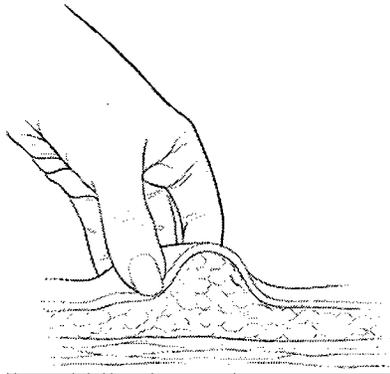
While holding the syringe with the needle pointing upward, gently push in the plunger until the medicine is up to the top of the syringe (Diagram 9).



**Diagram 9**

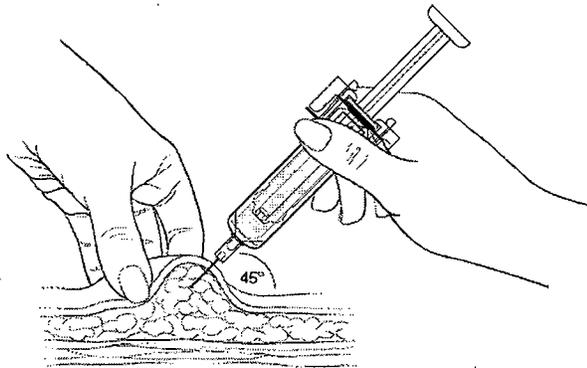
**Step 3: Injecting the dose.**

Gently grasp and squeeze a large area of skin in the chosen injection area between the thumb and fore-finger (Diagram 10) pulling it away from the body.



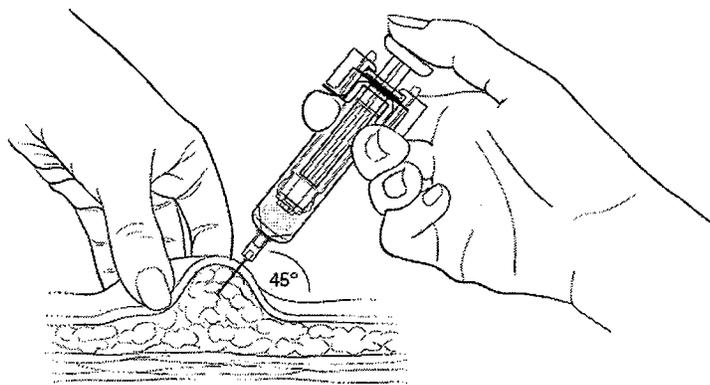
**Diagram 10**

Insert the needle at a 45 degree angle so that most of the needle is in the fatty tissue. The plastic hub of the needle should be nearly or almost touching the skin (Diagram 11).



**Diagram 11**

Inject the medication slowly until the syringe is empty (Diagram 12). This should take about 5-7 seconds.



**Diagram 12**

**The entire dose must be given to activate the needle guard.** When the entire dose is completely injected, gently pull the needle out of the skin. Remove your finger from the plunger, allowing the syringe to move up inside the device until the needle guard completely covers the exposed needle. **You will hear a 'click' when the needle guard is fully activated.** It is very important that the entire dose of depo-subQ provera 104 is given.

Use a clean cotton pad to press lightly on the injection area for a few seconds. **Do NOT rub the area.**

Following the administration of each dose, the used syringe should be discarded in a safe and proper manner.

## **HOW SUPPLIED**

depo-subQ provera 104 for subcutaneous use (medroxyprogesterone acetate injectable suspension 104 mg/0.65 mL) is available as pre-filled syringes, pre-assembled with UltraSafe Passive™ Needle Guard\* devices, packaged with 26-gauge x 3/8 inch needles in the following presentations:

NDC 0009-4709-01                      0.65 mL single-use, disposable syringe

Store at controlled room temperature 20° to 25° C (68° to 77°F) [see USP].

**Rx only**

\*UltraSafe Passive™ Needle Guard is a trademark of Safety Syringes, Inc.

Distributed by  
Pharmacia and Upjohn Co  
Division of Pfizer Inc, NY, NY 10017

Date (to be added)  
Copy code (to be added)

**Patient Information About**

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depo-subQ provera 104™  
medroxyprogesterone acetate injectable suspension  
104 mg/0.65 mL

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**Use of depo-subQ provera 104 may cause you to lose calcium stored in your bones. The longer you use depo-subQ provera 104 the more calcium you are likely to lose. The calcium may not return completely once you stop using depo-subQ provera 104.**

**Loss of calcium may cause weak, porous bones (osteoporosis) that could increase the risk that your bones might break, especially after menopause. It is not known whether your risk of developing osteoporosis may be greater if you are a teenager when you start to use depo-subQ provera 104.**

**You should use depo-subQ provera 104 long-term (for example, more than 2 years) only if other methods of birth control are not right for you.**

**depo-subQ provera 104 does not protect you from HIV (AIDS) and other diseases spread through sex (STDs).**

**WHAT IS depo-subQ provera 104?**

depo-subQ provera 104 is a drug for birth control. It contains a hormone called medroxyprogesterone acetate (MPA). It is given as a shot (injection) every 3 months. Three months is the same as 12 to 14 weeks.

***HOW WELL DOES depo-subQ provera 104 WORK?***

When you use depo-subQ provera 104 correctly, the chance of getting pregnant is very low. In studies, no women became pregnant during the year they used depo-subQ provera 104 injection.

The list below estimates the chances of getting pregnant using different types of birth control. The numbers are based on typical use. Typical use includes people who use the method correctly and people who use the method incorrectly. The list shows the number of women out of 100 women who will likely get pregnant if they use the method for one year.

<i>Method</i>	<i>Typical chance of getting pregnant in 1 year (No. of pregnancies in 100 women)</i>
Shot	Less than 1
Implant	
Female sterilization	
Male sterilization	
IUD (copper IUD and levonorgestrel IUD)	
Pill	5
Condom alone (male)	14
Withdrawal	19
Diaphragm with spermicides	20
Condom alone (female)	21
Periodic abstinence	25
Spermicides alone	26
Vaginal sponge or Cervical cap with spermicide	20 to 40

**HOW WILL I GET depo-subQ provera 104?**

depo-subQ provera 104 is given as a shot just under the skin on your thigh or belly. You get it once every 3 months.

**First Shot:**

Your healthcare provider will want to be sure that you are not pregnant before you get your first shot. Normally, you get the shot by the 5<sup>th</sup> day from the START of your menstrual period. You get it whether or not you are still bleeding.

If you are breast-feeding, you may have your first shot as early as 6 weeks after you deliver your baby.

**After the first shot:**

It is very important to keep getting depo-subQ provera 104 every 3 months. If you wait more than 14 weeks between shots, you could become pregnant. Your healthcare provider must make sure you are not pregnant before you get your next shot.

**When you get your shot, make an appointment for your next shot. Mark it on your calendar.**

**WHAT IF I MISS A SHOT?**

- If you miss a shot, or wait longer than 14 weeks between shots, you could get pregnant. The longer you wait, the greater the risk of getting pregnant.

- Talk with your healthcare provider to find out when to restart depo-subQ provera 104. You should be tested to be sure you are not pregnant.
- Use another kind of nonhormonal birth control, such as condoms, until you start depo-subQ provera 104 again.

**DO NOT TAKE depo-subQ provera 104 IF YOU...**

- Are pregnant or might be pregnant
- Have any unexplained vaginal bleeding
- Ever had breast cancer
- Ever had serious blood clots, such as blood clots in your legs (deep venous thrombophlebitis), lungs (pulmonary embolism), heart (heart attack), or head (stroke)
- Have liver disease
- Are allergic to anything in depo-subQ provera 104. (There is a list of what is in depo-subQ provera 104 at the end of this leaflet.)

**BEFORE TAKING depo-subQ provera 104**

Your healthcare provider may do a physical examination and check your blood and urine.

**Tell your healthcare provider about all your medical conditions.**

Most important, tell your healthcare provider if you:

- Are pregnant or might be pregnant. You should not get depo-subQ provera 104 if you are pregnant.
- Plan to become pregnant in the next year. After you stop getting depo-subQ provera 104, it takes time for your body to be able to get pregnant. It can be as early as 1 week after the last shot wears off. Most likely it will take up to 1 year or longer for you to get pregnant.
- Have breast cancer in your family
- Have an abnormal mammogram (breast X-ray), lumps in your breast, or bleeding from your nipples
- Have irregular, light, or heavy menstrual periods
- Have or had any of the following medical problems:
  - Kidney problems
  - High blood pressure
  - Migraine headaches
  - Asthma
  - Seizures
  - Diabetes, or if it runs in your family
  - Depression
  - Heart attack, stroke, or developed blood clots
  - Bone disease
  - Anorexia nervosa (an eating disorder)
  - A strong family history of osteoporosis
  - Drug use that can lower the amount of calcium in bones (drugs for epilepsy or steroids)
  - Drinking a lot of alcohol or smoking a lot

It is important to see your healthcare provider regularly if you have any of these conditions.

Tell your healthcare provider about all the medicines you take. This includes prescription and over-the-counter medicines, vitamins, and herbal products.

### **WHAT ELSE SHOULD I KNOW ABOUT TAKING depo-subQ provera 104?**

**Other Birth Control.** If you can't take birth control pills or can't use a birth control patch or ring, you may be able to use depo-subQ provera 104. Ask your healthcare provider.

**Pregnancy.** When you take depo-subQ provera 104 every 3 months, your chance of getting pregnant is very low. You could miss a period or have a light period and not be pregnant. If you miss 1 or 2 periods and think you might be pregnant, see your healthcare provider as soon as possible.

You should not use depo-subQ provera 104 if you are pregnant. However, depo-subQ provera 104 taken by accident during pregnancy does not seem to cause birth defects.

**Pregnancy in your tubes (Ectopic Pregnancy).** If you have severe pain low in your belly, tell your healthcare provider right away. Infrequently, a baby may start to grow outside the uterus, most often in the tubes.

**Nursing a baby.** Wait at least 6 weeks after your baby is born to start depo-subQ provera 104. You can use depo-subQ provera 104 if you are nursing.

- It does not lower the amount of milk you can make.
- It can pass through breast milk into your baby, but it is not harmful.

**Blood or urine tests.** depo-subQ provera 104 may affect blood or urine test results. Tell your healthcare provider you are taking depo-subQ provera 104 if you are going to have blood or urine tests.

**Other medicines.** depo-subQ provera 104 may not work as well if you are also taking Cytadren (aminoglutethimide), a cancer medicine. You may need to use another kind of birth control.

### **WHAT ARE COMMON SIDE EFFECTS OF depo-subQ provera 104?**

The most common side effects are:

- Changes in your monthly periods. You may not know when you will bleed, your periods may not be regular, you may have heavy bleeding, or you may have spotting. You may have more days of bleeding during the first 2 or 3 months after you start depo-subQ provera 104. Over time, you may have less and less bleeding. Many women stop having periods by the end of one year. Your periods will come back eventually after you stop using depo-subQ provera 104.
- Weight gain. In studies, women gained an average of 3 to 4 pounds during the first year they used depo-subQ provera 104. After 2 years of using depo-subQ provera 104, women gained an average of 7 to 8 pounds. Some women gained more, some gained less, some lost, and some stayed the same. Weight changes beyond 2 years of use with depo-subQ provera 104 have not been studied. Women who used a similar birth control product for 5 years gained on average 5 pounds more than women who did not use a hormone contraceptive product.

- Skin reaction where you got the shot. Lumps, skin dimpling, or pain are usually mild and usually don't last long. Scarring is unusual, but may happen. If there is swelling or your skin gets hot, has pus or looks bruised one or more days after your shot, call your healthcare provider.
- Headache

Other less common side effects include abdominal pain, acne, breast tenderness, depression, lack of energy, irritability, and decrease in sex drive.

If you feel you are having other side effects, talk with your healthcare provider.

### **WHAT ARE THE MOST SERIOUS RISKS OF depo-subQ provera 104?**

- **Losing calcium from your bones.** depo-subQ provera 104 use may decrease the amount of calcium in your bones. The longer you use depo-subQ provera 104, the more calcium you are likely to lose. This increases the risk of your bones weakening if you use depo-subQ provera 104 continuously for a long time (for example, if you use depo-subQ provera 104 for more than two years). The loss of calcium may increase your risk of osteoporosis and broken bones, particularly after your menopause.

Calcium is generally added to the bones during teenage years. The decrease of calcium in your bones is of most concern if you are a teenager or have the following risk factors:

- Bone disease
- Anorexia nervosa (an eating disorder)
- A strong family history of osteoporosis
- Drug use that can lower the amount of calcium in bones (drugs for epilepsy or steroids), or
- Drinking a lot of alcohol or smoking a lot

If you need a birth control method for more than two years, your healthcare provider may ask you to switch to another birth control method or ask you to have a test of your bones before continuing depo-subQ provera 104, especially if you have other risks for weak bones. When depo-subQ provera 104 is stopped, the calcium in your bones begins to come back. The lost calcium may not return completely once you stop using depo-subQ provera 104. Your healthcare provider may tell you to take calcium and Vitamin D as this may lessen the loss of calcium from your bones.

- **Abnormal or very heavy bleeding.** If you start having very heavy or very long periods, tell your healthcare provider.
- **Liver problems.** Your healthcare provider may stop depo-subQ provera 104 if you have liver problems. Some signs of liver problems are yellow skin or eyes, feeling like you have the flu, feeling more tired than usual, and itching. Tell your healthcare provider if you have these symptoms.
- **Allergic reaction.** Allergic reactions to depo-subQ provera 104 are not common. If you have hives, problems breathing, or just do not feel right after your shot, call your healthcare provider or go to the Emergency Room right away.
- **Serious blood clots.** Call your healthcare provider immediately if you:
  - Have sharp chest pain, cough blood, or suddenly have trouble breathing

- Have a sudden severe headache with vomiting, blindness or trouble talking, weakness, or numbness in an arm or leg, or get dizzy or faint
- Have swelling or severe pain in your leg

***DOES depo-subQ provera 104 CAUSE CANCER?***

- Birth control like depo-subQ provera 104 was studied in women for many years. In general, the risk of breast cancer slightly increased or stayed about the same as in women not using birth control like depo-subQ provera 104.
- The risk of cancer of the ovary, liver, or cervix did not change.
- There is a decreased risk of cancer of the uterus (endometrial cancer).

**WHAT IF I WANT TO BECOME PREGNANT?**

Plan ahead. The effect of depo-subQ provera 104 can last for a long time after you stop getting shots. Although you may be able to get pregnant quickly, it is more likely to take a year or longer after your last shot before you get pregnant.

It's best to see your healthcare provider for a pre-pregnancy check-up. Your healthcare provider may also tell you to take a vitamin called folic acid every day if you are planning to become pregnant.

**ARE THERE OTHER BENEFITS OF TAKING depo-subQ provera 104?**

Yes. depo-subQ provera 104 may reduce your risk for cancer of the uterus.

**GENERAL ADVICE ABOUT depo-subQ provera 104**

For more information about depo-subQ provera 104, ask your healthcare provider or pharmacist. You can also visit [www.Depo-Provera.com](http://www.Depo-Provera.com) or call 1-866-554 DEPO (3376). A nurse can answer questions in Spanish or English 24 hours-a-day, 7 days a week.

**WHAT IS IN depo-subQ provera 104?**

Active ingredient: medroxyprogesterone acetate

Inactive ingredients: methylparaben, propylparaben, sodium chloride, polyethylene glycol, polysorbate 80, monobasic sodium phosphate-H<sub>2</sub>O, dibasic sodium phosphate-12H<sub>2</sub>O, methionine, povidone, water for shot. When necessary, the pH is adjusted with sodium hydroxide or hydrochloric acid, or both.

**Rx only**

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Date (to be added)  
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- 
- i Trussell J. Contraceptive efficacy. In Hatcher RA, Trussell J, Stewart F, Cates W, Stewart GK, Kowal D, Guest F, Contraceptive Technology: 17th Revised Edition. New York, NY: Irvington Publishers, 1998.
  - ii Skegg DCG, Noonan EA, Paul C, Spears GFS, Meirik O, Thomas DB. Depot Medroxyprogesterone Acetate and Breast Cancer: A Pooled Analysis from the World Health Organization and New Zealand Studies. JAMA. 1995; 273(10): 799-804.
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